

The common specification notes that LED lighting, which stands for “light emitting diode” lighting, had gained popularity by the time of the invention. *Id.* at col. 2, ll. 22–23. The specification then explains that the inventor sought to invent “a lightening solution suitable for the lightening industry implementing the advantages of LED lights which allows for evenly dispersed light controllable within specific color temperature parameters without the need to physically switch out colored gels or lamp modules to achieve the desired color temperature light” and to “maintain the shape and interface of a traditional fluorescent lamp so as to allow maximum usability in the lighting industry.” *Id.* at col. 2, line 66 through col. 3, line 8.

The parties have agreed on the construction of two of the terms they raised for the court’s resolution, identified as issues 8 and 11 in the parties’ Joint Claim Construction Brief, Dkt. No. 223. First, they have agreed that the phrase “the warm white light is tungsten balanced” should be construed to mean “light at a color temperature of about 3,200 Kelvin.” Dkt. No. 223 at 2 (issue number 8). Second, they have agreed that the phrase “cool white light is daylight balanced” should be construed to mean “light at a color temperature of about 5,500 Kelvin.” *Id.* (issue number 11). I will adopt those agreed-upon constructions. The remaining 13 claim construction disputes will be addressed below.³

Kelvin (the surface temperature of some O-type blue stars, for example), an ideal black body radiates in the visible portion of the electromagnetic spectrum. Those temperatures correspond to wavelengths of light ranging from about 400 nanometers to about 700 nanometers.

³ Although the table of contents in the parties’ Joint Claim Construction Brief contains a list of issues numbered from 1 to 17, issue number 15 and issue number 16 have been withdrawn, and issue number 8 and issue number 11 are no longer disputed. So the total number of disputed issues is only 13.

A. “light suitable for a commercial image recording” and “suitable for the commercial image recording” (issue 1)

1. The phrase “light suitable for a commercial image recording” appears in the preamble of all the independent claims in each of the Colt patents.⁴ Colt argues that the phrase need not be construed, because it is not limiting. Dkt. No. 223 at 3. Alternatively, Colt proposes construing the phrase to mean “output lights suitable for use in the TV or studio production industry.” *Id.* at 4. The defendants disagree. They argue that the phrase “suitable for a commercial image recording” the invention. *Id.* at 5.

“In general, a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim. Conversely, a preamble is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (citation and internal quotation marks omitted). Beginning with the claims of the ’924 patent, each preamble states, in relevant part, “an LED light system configured for providing broad-spectrum white light suitable for a commercial image recording” That language simply sets forth the purpose or intended use of the invention. The bodies of the claims denote the structure of the lighting system by describing the housing, LEDs, circuitry, cover, and configuration of the system. *E.g.*, ’924 patent, claim 1. Because the structural limitations in the bodies of each of the claims describe the features that define a lighting system suitable for commercial image recording, to which the “light suitable” phrase adds nothing

⁴ In all the patents-in-suit except for the ’600 patent, the phrase reads “white light suitable for a commercial image recording.” In the ’600 patent, the phrase reads, “light suitable for commercial image recording.” See ’600 patent, col. 12, ll. 6–7; *id.* at col. 13, ll. 59–60.

of substance, those structural limitations suggest that the language found in the preambles is not limiting.

If the “suitable for” phrase had been confined to the preambles of the claims, there would be little doubt that the phrase would not be limiting. But the patents also use a similar phrase, “suitable for the commercial image recording” in the body of almost all the claims at issue in this case.⁵ The use of the word “the” in the body of those claims (“suitable for *the* commercial image recording”) carries with it the need for an antecedent basis, and the only place that the reference to such an antecedent can be found is in the preamble of each of those claims, which recites “suitable for *a* commercial image recording.”⁶ “[D]ependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention.” *Catalina*, 289 F.3d at 808. The fact that the preamble is used to provide the antecedent basis for a phrase used in the body of a claim strongly suggests that the preamble is limiting. *Bio-Rad Lab’ys, Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1371 (Fed. Cir. 2020) (“Based on the antecedent relationship, it is clear the claim drafters intended to limit the claimed methods to on-chip reactions, using both the preamble and the body of the claim to define the claimed invention.”).

The specification also supports that conclusion. First, the specification explains that prior art lighting systems could not provide lighting “suitable for use in the stage lighting industry, for uses such as TV, stage, photography and studio lighting.” ’924 patent, col. 2, ll. 45–48; *see also id.* at col. 2, ll. 64–65 (criticizing a prior art reference as “not suitable for studio use”). The

⁵ The only exceptions are claim 16 of the ’895 patent (and its dependent claims) and claim 11 of the ’473 patent (and its dependent claims).

⁶ The same point is made with even more force in the ’582 patent, which uses the word “said” in the phrase “said suitable for the commercial image recording,” ’582 patent, col. 12, line 52, which specifically refers to the antecedent phrase in the preamble.

specification then explains that “what is desired is a lighting solution suitable for the lighting industry” *Id.* at col. 2, ll. 66–67; *see also id.* at col. 9, ll. 18–19 (“Lighting systems of the present invention are suitable for TV or studio production.”). Because the specification makes it clear that the inventor was working on a particular problem, which the claim purports to solve, it is appropriate to construe the preamble as limiting. *See Gen. Elec. Co. v. Nintendo Co.*, 179 F.3d 1350, 1361 (Fed. Cir. 1999).

In addition, during the prosecution of the application that matured into the ’642 patent, the first of the issued patents asserted in this case, the applicant sought to overcome a rejection by arguing that “[i]t was not even obvious to try to create [a] bicolor switchable LED light suitable for commercial image recording and of T12 or smaller format.” Nov. 3, 2016, Response to Office Action at 23; *see also id.* at 26 (arguing that the failure of those in the industry “to create a bicolor LED tube light suitable for commercial image recording” supports a finding that the claim was nonobvious). Those statements indicate that the inventor regarded the suitability of the system for commercial image recording to be an essential element of the invention.

Finally, and most importantly, the applicant included a “Claim Construction Note” in the November 3, 2016, Response to Office Action in the prosecution of the ’642 patent, in which the applicant rejected the examiner’s conclusion that the phrase “suitable for commercial image recording” was not a limitation and explained that the phrase is “considered a claim limitation[]” because the preamble element is “repeated within the body of each independent claim.” *Id.* at 33. That statement made clear “what the inventor[] actually invented and intended to encompass by the claim”—to limit the claims to the field described in the preamble language. *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989).

2. The next task is to determine the appropriate construction of the “light suitable for” phrase. As noted, Colt proposes that the court construe the phrase to mean “light suitable for use in the TV or studio production industry.” Standing by itself, that construction essentially restates the “light suitable for commercial image recording” limitation without defining it. The purpose of claim construction is to determine the meaning and scope of the patent claims asserted to be infringed. Colt’s proposed construction does not shed light on the meaning or scope of the claim term, and in particular it does not indicate what, if anything, the “light suitable for” phrase adds to the other limitations found in the various claims.⁷

On the other hand, the defendants propose construing the phrase “light suitable for the commercial image recording” by reading multiple limitations into that phrase. The defendants propose construing the phrase, as used in each of the asserted patents, to mean

light that: (i) is at least 1000 lumens when the first LEDs are lit and is also at least 1000 lumens when the second LEDs are lit; (ii) is broad - spectrum white light having a color deviation corresponding to less than five points of green and less than five points of magenta (5M, 5G) of color compensation (CC), and has a color rendering index of light emitted from each of the first LEDs or each of the second LEDs, whichever respective plurality of first or second LEDs is lit, that is greater than 90.

Dkt. No. 227 at 2–4. That proposed construction of the “suitable for” phrase is taken from limitation [j] of claim 1 of the ’582 patent, a patent that was the subject of an *Inter Partes* Review (“IPR”) proceeding initiated in 2023. In that IPR proceeding, the patentee stated that the recited light is “‘suitable for the commercial image recording’ including the elements set forth in the elements set forth in [limitation] 1[j], which include the 1000 Lumen Minimum of [limitations]

⁷ If the limitation read, for example, “light *used* for commercial image recording,” the limiting effect of the phrase would be clear, as the claims would not be infringed unless the system or method was used for commercial image recording. But “suitable for a commercial image recording” is a much broader phrase, which does not require the actual use of the system or method for that purpose; it merely requires that the system or method could be used for that purpose.

1[j](i), the G/M 5 Point Limit of 1[j](ii) and the CRI>90.” Dkt. No. 223, Defendants’ Exhibit 8, at 12.

The problem with the defendants’ construction is that the language describing the “suitable for” phrase in claim 1 limitation [j] of the ’582 patent cannot be imported into each of the other claims and patents, because the phrase “suitable for” is used in several different contexts in the different patents at issue in this case. While language similar (although not always identical) to the language found in claim 1 limitation [j] of the ’582 patent is found in claims 1[j] and 23[j] of the ’895 patent, claim 18 of the ’473 patent, claim 8[g] of the ’924 patent, and claim 1[k] of the ’600 patent, a number of other claims simply state that light is “suitable for the commercial image recording both when the emitted light from the LED light system is in the first temperature range of cool white light and when the emitted light from the LED light system is in the second temperature range of warm white light.” See ’582 patent, claims 1[i] and 18[f]; ’642 patent, claims 1, 8, 15, and 16; ’924 patent, claims 1[f], 15[g], and 16[g]; ’895 patent, claim 1[i]; ’473 patent, claim 1[i]; and ’600 patent, claims 1[g] and 14. As such, the meaning of the phrase cannot automatically be imported from claim 1 of the ’582 patent into all the other asserted claims.

Besides the fact that a number of the claims use language different from that cited by the defendants in their proposed definition of the “suitable for” phrase, the phrase is not used in the claims as a restrictive definition. Rather, the phrase is used in a manner indicating that if certain conditions are satisfied, the lighting is suitable for commercial image recording.⁸ The same is true

⁸ That is not the same as saying that the lighting is unsuitable for those purposes if those conditions are not met. Theoretically, lighting might be able to satisfy other conditions not recited in the claim that would render the lighting suitable for those purposes. But because lighting must meet the conditions set forth in the claim, and by meeting those conditions the lighting is necessarily suitable for commercial image recording, determining whether lighting could satisfy other, unlisted conditions such that it would be suitable for commercial image recording is a purely academic exercise.

of the patent owner's statement in the IPR proceedings regarding the '582 patent: The patent owner simply stated that when the designated conditions are met, the light is suitable for commercial image recording. Dkt. No. 223, Defendants' Exh. 8, at 12.

It is true that in the Patent Owner's Preliminary Response in that IPR, Colt stated that "the term 'suitable for the commercial image recording' has the (plain) meaning as defined right in the claims." Dkt. No. 223, Defendants' Exh. 7, at 13. Colt then restated two of the claim limitations from claim 1 of the '582 patent, which according to Colt defined the phrase. *Id.* at 13–14. But Colt's acknowledgement is best understood as limited to the use of the "suitable for" phrase in the '582 patent, and in particular in connection with the specific conditions set forth in limitation 1[j] of that patent. In sum, the defendants' construction is only appropriate for the "suitable for" phrase as that limitation is used in claim 1 of the '582 patent. In claim 1, the '582 patent provides that the light "is suitable for the commercial image" when the requirements of both limitation (i) and limitation (j) of claim 1 are met. For that claim, the defendants are correct that the proper construction of "light suitable for a commercial image recording" is provided by the claim elements that follow the "suitable for" phrase as identified in the defendants' proposed construction. And limitations [h] and [i] of claim 23 of the '582 patent provide that light is "suitable for the commercial image recording" when the same conditions that are set forth in limitations [i] and limitation [j] of claim 1 are met.

But claim 18 of the '582 patent only references the suitability of the light in limitation 18[f], so claim 18 has a less restrictive requirement for suitability than claim 1, in that the light "is suitable for the commercial image recording both when the emitted light from the LED light system is in the first predetermined Kelvin temperature range of cool white light and when the

emitted light from the LED light system is in the second predetermined Kelvin temperature range of warm white light.”

Thus, the better construction of “light suitable for a commercial image recording” is provided by the claim elements that follow the term in each of the respective claims. As the Federal Circuit has instructed, “the claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314. Here, the patents make clear that if a light system meets each of the limitations of a particular claim, that light system will be “suitable for a commercial image recording” as contemplated by the claim. To be sure, that construction makes the claims somewhat redundant: If the “suitable for” phrase is defined by other limitations in the claims that must be satisfied, the “suitable for” phrase will not have any independent force in restricting the scope of the claims. Yet, while as a general matter a construction that renders claim language redundant should be avoided, there is no absolute prohibition against redundant claims. *See, e.g., AlmondNet, Inc. v. Microsoft Corp.*, No. 6:21-CV-00897, 2023 WL 11983063, at *11 (W.D. Tex. June 19, 2023) (finding claim not indefinite despite redundancy). Here, nothing in the specification supports a different construction of the phrase, much less a strained construction whose only virtue is that it avoids redundancy.⁹ Accordingly, giving the phrase its plain and ordinary meaning, which is captured by the other limitations in the claims, is the most appropriate construction, despite the redundancy. *See Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380–81 (Fed. Cir. 2006) (“claim drafters can also use different terms to define the exact same subject matter”).

⁹ The rule against construing claims in a manner that creates redundancy is based on the assumption that a careful patent drafter will ordinarily avoid redundancy, and that a redundant construction therefore likely does not reflect the drafter’s intent. Where, as here, the patent drafter has included the same language in the preamble and the body of the claims, it is reasonable to conclude that the patent drafter was not concerned with avoiding redundancy.

The defendants also suggest that Colt's statements made during the IPR proceeding and during the prosecution of certain of the patents constitute a disclaimer of claim scope flowing from the "light suitable for a commercial image recording" phrase. Dkt. No. 223 at 9. I disagree. Although Colt explained that the use of the specific elements of each of the recited claims would render the system suitable for commercial image recording, Colt did not suggest that the phrase had the effect of incorporating all the specific elements of any particular claim into the other claims much less into all the other claims in the other related patents. To the contrary, in addressing the "light suitable for" phrase in the context of the '582 patent, Colt explained that "whether or not the use of 'suitable for the commercial image recording' in the preamble of e.g., claim 1, is an intended use or is a claim element is moot since the term is expressly defined as having the elements in 1[j]" of the '582 patent. Dkt. No. 223, Defendants' Exh. 7, at 14. Thus, each claim of each patent sets forth the conditions that make the invention "suitable for a commercial image recording," as contemplated by that specific claim. The challenged language adds nothing by way of further limiting each of those claims.

Finally, the defendants identify various other items of "intrinsic evidence support" for their proposed construction in the joint claim construction chart. Dkt. No. 227 at 2–6. Most of those listed documents are not discussed in the defendants' briefing, and based on my own review there is nothing in those documents that supports the defendants' request to import various claim elements from claim 1 of the '582 patent into the other claims asserted in this case. To the contrary, certain of those items support interpreting the phrase as I have set forth above. *See* Application No. 15/450,372, Declaration of Ken Fisher, at 10 ("Importantly, providing 'light suitable for commercial image recording' must be interpreted taking into account all *combined* claim elements."); Application No. 15/818,306, February 1, 2019, Response to Office Action at 2

(“Importantly, the claimed LED light system provides light suitable for commercial image recording[;] . . . this is reflected in the claims through specification of [certain requirements].”); Application No. 15/450,372, January 10, 2019, Response to Office Action at 15 (same).

I recognize that it is unconventional to conclude on the one hand that preamble language is limiting but on the other hand that in light of other limitations in the claims, the preamble language has no material effect on the scope of the claims. But that is the necessary consequence of the way the claims in this family of patents were drafted, such that the requirement that a system be “suitable for a commercial image recording” is satisfied if other necessary limitations of the claims are also satisfied.

B. “form factor of a fluorescent tube”; “linear form factor”; “wherein the linear form factor is substantially that of an elongated tubular fluorescent light tube lamp in substantially a T8 or T12 form factor”; “the housing and cover together have an elongated linear form factor in substantially a T8 or T12 form factor” (issues 2, 4, 5, and 6)

The central dispute involving these claim terms is whether Colt made statements during post-grant proceedings that constitute a disclaimer of claim scope. The defendants argue that Colt has limited its invention to “the physical shape and form of a T12 (circular cross sectional) fluorescent tube or narrower” through Colt’s statements made during the reexamination of the ’642 and ’924 patents¹⁰ and during IPR proceedings involving the ’895 and ’582 patents. Dkt. No. 223 at 12–13. Colt disputes that any of its statements in those post-grant proceedings rise to the level of disclaimer, and it proposes that the “form factor” limitations be construed to mean only “a generally linear tubular shape.” *Id.* at 12.

¹⁰ The defendants do not identify any specific part of the reexamination that they think supports a finding of disclaimer. But given that the IPR statements are sufficient to establish disclaimer and that the terms should be construed consistently across the patents, I need not consider whether any statements made during the reexamination proceedings contribute to a finding of disclaimer.

In support of their disclaimer argument, the defendants cite various statements Colt made during the IPR proceedings that the patents are directed to a “LED luminaire in a form factor of a T12 fluorescent tube or narrower.” *Id.* at 13. The defendants argue that those statements have the effect of disclaiming any structures for the claimed LED lighting system and method other than one employing the structure used in the T12 fluorescent tubes or smaller such tubes. *Id.* at 14. Colt disputes that its statements rise to the level of disclaimer and describes its statements during the IPR proceedings as “general descriptions” rather than specific definitions. *Id.* at 15–16. Colt also explains that the claims recite different tube lengths and diameters in various claims, thus indicating that the claims were intended to cover tubes of widely varying shapes. *Id.* at 15.

It is well established that a statement made during post-grant proceedings can result in disclaimer of claim scope if the alleged disclaimer is clear and unmistakable. *See Maquet Cardiovascular LLC v. Abiomed Inc.*, 131 F.4th 1330, 1342–43 (Fed. Cir. 2025) (statements made during an IPR can give rise to a disclaimer of claim scope in later proceedings); *CUPP Computing AS v. Trend Micro Inc.*, 53 F.4th 1376, 1383 (Fed. Cir. 2022) (same); *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1360 (Fed. Cir. 2017) (same); *01 Communique Lab’y, Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012) (statements made during a reexamination proceeding can give rise to disclaimer); *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1266 (Fed. Cir. 2012) (same); *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1336 (Fed. Cir. 2011) (same).

In the Patent Owner’s Preliminary Response in IPR2023-613,¹¹ Colt stated that the ’582 patent “is directed to a ‘bicolor’ LED luminaire in a form factor of a T12 fluorescent tube or narrower.” Dkt. No. 223, Defendants’ Exh. 7, at 6. Colt further explained that the “end of lamp

¹¹ The front page of the Patent Owner’s Preliminary Response identifies the case number as IPR2023-613, but the header on subsequent pages identifies the case number as IPR2013-613. Given the signature date, I will use the case number as listed on the first page.

(8) includes a base (14) with electrical connectors (16) and is made e.g., in T8 or T12 fluorescent size.” *Id.* at 7. Colt then argued that the challenger’s invalidity arguments were unlikely to succeed because independent claim 1 recites a narrow tubular luminaire; specifically, the claim includes a “combination of elements [that] results in a bicolor LED luminaire in tubular, T12 format or narrower.” *Id.* at 38–39. Finally, Colt argued that the invention of claim 1 could not be characterized as the product of routine optimization because “a POSITA would only have limited space in a narrow tubular design.” *Id.* at 54–55.

In the Patent Owner’s Response in the same IPR, Colt again explained that the patent is directed to lighting having the structure of a T12 fluorescent tube or a narrower tube. Dkt. No. 223, Defendants’ Exh. 8, at 3, 12. Then, when discussing Hasnain, a prior art reference, Colt argued that in some embodiments in the reference “the LED luminaire has a large heat sink vitiating any T12 format or tube format of the LED luminaire.” *Id.* at 8. That reference, Colt added, “teaches complex heat sink structure that well-exceeds a T12 format and still does not have a cover,” *id.* at 60, and it “is no longer a T8 or T12 size,” *id.* at 64. Colt also argued that dependent claim 12 recites a wattage that “is even more diametrically opposed to sound design principles at the Time of the Invention for a T12 (1.5” diameter) or narrower LED luminaire,” so the claim would require “extreme measures.” *Id.* at 61.

Next, in the Patent Owner’s Preliminary Response in IPR2023-614,¹² Colt similarly described the ’895 Patent as “directed to a ‘bicolor’ LED luminaire in a form factor of a T12 fluorescent tube (about 1.5” or 41mm wide/diameter) or narrower, e.g., T8 (1” wide/diameter).”

¹² As with the other IPR proceeding, the front page of the Patent Owner’s Preliminary Response identifies the case number as IPR2023-614, but the header on subsequent pages identifies the case number as IPR2013-614. Again, I will use the case number as listed on the first page.

Dkt. No. 223, Defendants' Exh. 9, at 7. In the Patent Owner's Response in the same IPR, Colt described the patent in a similar way. Dkt. No. 223, Defendants' Exh. 10, at 3, 4. Then, when distinguishing Hasnain, Colt again explained that in certain embodiments of Hasnain, "the LED luminaire has a large heat sink vitiating any T12 format or tube format of the LED luminaire," *id.* at 8; that "Hasnain also teaches complex heat sink structure that well-exceed a T12 format and still does not have a cover," *id.* at 60; and that "Hasnain is no longer a T8 or T12 size," *id.* at 64. And finally, when addressing a dependent claim, Colt made the same argument that the claimed wattage "is even more diametrically opposed to sound design principles at the Time of the Invention for a T12 (1.5" diameter) or narrower LED luminaire" and would "require 'extreme measures.'" *Id.* at 61.

I find that those statements, taken together, constitute a disclaimer of claim scope with respect to any lighting structure with a tube shape other than the T12 shape or narrower. First, the responses describe both the '582 and '895 patents as directed to a luminaire in a form factor of a T12 fluorescent tube or narrower. "When a patent . . . describes the features of the 'present invention' as a whole, this description limits the scope of the invention." *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007). Here, the responses do not specifically use the term "present invention," but they refer to the patent as a whole and are not limited to certain embodiments or examples. Accordingly, the description of what the patent is directed to weighs in favor of finding disclaimer.

Moreover, Colt distinguished its inventions from the prior art based on the inventions' use of a T12 shape or narrower. Colt made arguments to the Patent Trial and Appeal Board to overcome the IPR petition and the Hasnain reference. In those arguments, Colt identified reasons that Hasnain did not render the claims obvious, some of which relied on the invention's use of a

T12 or narrower shape. Statements distinguishing claims from a prior art reference, such as those statements, can constitute a disclaimer. *See Tech. Props. Ltd. LLC v. Huawei Techs. Co.*, 849 F.3d 1349, 1357 (Fed. Cir. 2017) (“An applicant’s statements to the [Patent and Trademark Office] characterizing its invention may give rise to prosecution disclaimer. Prosecution disclaimer can arise from both claim amendments and arguments made to the [Patent and Trademark Office].” (citation omitted)); *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1376 (Fed. Cir. 2008).

Colt’s arguments on this issue are insufficient to overcome a finding of disclaimer. First, Colt argues that the form cannot be narrowed across all the claims, because they recite different diameters, and that requiring the claims to conform to one size would frustrate the purpose of claiming different sizes. Dkt. No. 223 at 11. Although the original claims may have been broader than a T12 or narrower shape, during the IPR proceedings Colt repeatedly described its inventions as limited to a T12 or narrower shape. By doing so, Colt gave up any potentially broader claim scope.

Second, Colt asserts that the statements it made in the IPR proceedings are not clear and unambiguous, and that the totality of the prosecution history counsels against a finding of disclaimer. Dkt. No. 223 at 16. Those assertions by Colt, however, are unsupported by any analysis or explanation, and as such they carry little if any weight. Therefore, I find that the prosecution history establishes disclaimer for the ’582 and ’895 patents.

The remaining question is whether the disclaimer should extend to similar language in the other patents at issue in this case—the ’642 patent, the ’924 patent, the ’473 patent, and the ’600 patent. In situations such as this one, a disclaimer made with respect to language used in one patent has been held applicable to similar language in other patents in the same family of patents,

even if the disclaimer was made after the patents in suit were issued. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004); *Capital Mach. Co. v. Miller Veneers, Inc.*, 524 F. Appx. 644, 648 (Fed. Cir. 2013). As the Federal Circuit explained in *NTP Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005), when construing claims in patents that derive from the same patent application and share common terms, “we must interpret the claims consistently across all asserted claims.” The other patents all derive from the same original application, they all share a common specification, and they use the same terms in referring to the “form factor” limitations. The disclaimer regarding the “form factor” limitations in the ’582 and ’895 patents therefore applies to those limitations in the other four asserted patents as well.

C. “diameter” (issue 3)

The parties disagree about whether the use of the term “diameter” in referring to the shape of the claimed lighting tubes means that the claimed invention is directed exclusively to tubes with a circular cross-sectional shape, as the defendants contend, or whether the tubes can be non-circular, as Colt contends. Colt argues that the patents disclose embodiments with non-circular shapes, focusing on figure 8 in the common specification, which appears to show a tube with an oval cross-section. Dkt. No. 223 at 19. The defendants respond that the plain and ordinary meaning of “diameter” is the distance across the center point of a circle, so the cross-sectional shape must be circular. *Id.* at 20. The defendants respond to Colt’s argument regarding figure 8 by noting that the figure depicts an LED lamp, which an artisan of ordinary skill would understand to have a circular cross-section. *Id.* The defendants also argue that the patent does not refer to the structure in figure 8 as an oval and that drawings cannot be relied on to show particular proportions or sizes, so there is nothing in the patent to overcome the plain and ordinary meaning of “diameter.” *Id.* at 21.

Colt disagrees that the plain and ordinary meaning of diameter necessarily refers to a structure with a circular cross-section. *Id.* at 23. Instead, Colt argues that the term refers to a line that extends from one side of a structure to the other side, while passing through the structure's center. *Id.*

I agree with the defendants that Federal Circuit case law cautions against using figures to determine proportions or dimensions when the specification is silent as to those proportions or dimensions. *See Hockerson-Halberstadt, Inc. v. Avia Grp. Int'l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000). Therefore, I give little weight to the apparent oval shape depicted in figure 8. But the defendants have not established that the plain and ordinary meaning of the term “diameter” is necessarily limited to structures with perfectly circular cross-sections. “[T]he words of a claim are generally given their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312–13. And “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.*

Colt points out that ordinary dictionary definitions do not expressly restrict the term “diameter” as referring exclusively to objects with circular cross-sections. Dkt. No. 223 at 22–23. The defendants take issue with Colt's reliance on general dictionary definitions and contend that an artisan of ordinary skill in the lighting art would know that the term “diameter,” as used in the context of fluorescent tubes, implies a circular cross-section, because the cross-section of a fluorescent tube at the time of the invention was usually circular. Dkt. No. 223 at 20 n.20.

“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.

In such circumstances, general purpose dictionaries may be helpful.” *Phillips*, 415 F.3d at 1314 (citation omitted). Here, I find the term “diameter” to be a commonly understood word. Dictionary definitions do not suggest that the term is limited to structures with circular cross-sections. *See Webster’s Third New International Dictionary* 623 (2002) (“diameter: a chord passing through the center of a figure or body (as a circle, conic section, sphere, cube) . . . the length of a straight line through the center of an object.”); *Merriam-Webster’s Collegiate Dictionary* 345 (11th ed. 2020) (same); *IV Oxford English Dictionary* (2d ed. 1989) (diameter. gen.: “A line passing from side to side of any body through the center.”). The defendants have not cited anything in the specification that assigns a special meaning to the term narrower than those dictionary definitions.

There is, of course, no such thing as a perfect circle in the real world. The term “diameter” of even a tube with a roughly circular cross-section would therefore always be a matter of approximation, in which the diameter of the cross-section would vary depending on where the measurement is taken. Because the reference in the claims to the diameter of the tube is intended to ensure that the tube be no larger than 1-1/2 inches in width (the width of the conventional T12 fluorescent bulbs), the purpose of the “diameter” limitation will be served if the cross-section of the tube is equal to or less than 1-1/2 inches at its widest point, even if the diameter of the tube might be somewhat less than when the cross-section is measured at a different point.¹³

¹³ Because the term “diameter,” as used in the patents, can reasonably be construed in this manner, I reject the defendants’ argument that the term is indefinite, thereby rendering all the asserted patents invalid. I note, in addition, that in the prosecution history, the patentee referred to the term “diameter” as equivalent to the term “wide,” IPR2013-0613, Patent Owner’s Preliminary Response 7, Dkt. No. 223, Defendants’ Exh. 7, at 7, which provides further support for the construction of “diameter” in these patents to be equivalent to “width across the widest point of the cross-section.”

Accordingly, I construe “diameter” to mean “the length of a straight line passing from one side of a body to the other through the center of the body.”

D. “tungsten white LEDs”; “first temperature range is tungsten white light”; “warm white LEDs”; “predetermined Kelvin temperature range of warm white light”; “predetermined Kelvin temperature range of tungsten” (issues 7 and 9)

As an initial matter, Colt requests judicial correction of the term “warm white LEDs” in claim 26 of the ’924 patent. Colt explains that claim 1 of that patent does not use the phrase “warm white LEDs” but instead uses the phrase “a plurality of second LEDs . . . configured to emit broad-spectrum white light in a second predetermined Kelvin temperature range of warm white light.” Dkt. No. 223 at 39. Therefore, Colt asks that “warm white LEDs” as used in claim 26 be construed to mean a “plurality of second LEDs.” *Id.* Colt argues that such judicial correction is appropriate because the error is evident on the face of the patent, the correction does not conflict with the specification, and the correction is not in dispute. *Id.* at 40. The defendants do not contest Colt’s proposed correction. *See id.* at 40–45. Accordingly, it will be adopted.

The first dispute over these terms is whether to construe tungsten (or warm) white light as restricted to light falling within a specific temperature range. Beginning with the “tungsten” terms, Colt argues that the patents do not define a specific temperature range for tungsten light, so tungsten should be construed as “a color temperature suitable for use with tungsten film.” Dkt. No. 223 at 36. Alternatively, Colt suggests restricting the range of temperatures from 1000 to 4200 K. *Id.* The defendants propose further restricting the temperature range for tungsten light, i.e., between 2700 and 3300 K. *Id.* at 43.

Colt identifies nothing in the claims or the common specification that suggests that the tungsten temperature range should be construed with respect to tungsten film. To the contrary, Colt acknowledges that the specification identifies various numerical ranges of optimal temperatures. *Id.* at 36. Moreover, the specification notes that “[w]hat is desired is a lighting

solution . . . which allows for evenly dispersed light controllable within specific color temperature parameters.” ’924 patent, col. 2, line 66, through col. 3, line 2. That characterization supports a construction using a specific numerical range rather than construing the term “tungsten” to have anything to do with the use of tungsten film. Accordingly, given that both sides have proposed a numerical temperature range and that the specification deals with numerical temperature ranges, the real dispute is whether to adopt the broader range of 1000 to 42000 K or to restrict tungsten light to a narrower range.

The common specification explains that one of the “two most frequently used and desired color temperature ranges in the lighting industry . . . ha[s] been found to be 3050 to 3300 K for tungsten (warm white).” *Id.* at col. 2, ll. 63–66. Consistent with that disclosure, the specification identifies the preferred embodiment as having a “predetermined color temperature range extend[ing] between 3050 and 3300 K for rendering tungsten color temperature light.” *Id.* at col. 3, ll. 51–53 and col. 5, ll. 36–39. But the specification also notes that “additional ranges that may be acceptable are 2800 K to 3300 K.” *Id.* at col. 5, ll. 39–40. In Example 1, the patent identifies the color temperature for tungsten mode to be 3200 K plus or minus 150 K. *Id.* at col. 10, line 12. And the specification discloses that to create the LED lamps disclosed in each example, “the LEDs for the T (warm white light) type are selected in the ranges of 2800 to 3300 or about 2800 to 3300 K.” *Id.* at col. 11, ll. 45–47.¹⁴ Elsewhere, the specification describes tungsten as having a color temperature range between about 2800 and 3000 K. *Id.* at col. 9, ll. 14–15. Finally, the specification states that the term “about,” as used with regard to temperature ranges, means “within 3 percent.” *Id.* at col. 5, line 41.

¹⁴ The specification explains that T stands for tungsten. ’924 patent, col. 5, line 32.

As the Federal Circuit has repeatedly stated, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). This case is no different. The specification uses tungsten as a term of art and identifies about 2800 to 3300 K as the “acceptable” temperature range for tungsten light, with 3050 to 3300 K being the optimal range. Of course, claim terms are typically not construed as limited to particular embodiments absent other circumstances warranting such limiting. *See Phillips*, 415 F.3d at 1323 (“although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments”). The range of 3050 to 3300 K is clearly identified as a preferred embodiment—i.e., one of multiple embodiments. Therefore, it would not be appropriate to restrict tungsten light to the range of 3050 to 3300 K. But nothing in the specification suggests that the broader range of about 2800 to 3300 K is merely an embodiment. To the contrary, the specification contemplates using light at various temperature ranges and notes that those ranges “may be selected in other ranges disclosed” within the specification. ’924 patent, col. 11, ll. 52–53. Specifically, the patent contemplates using light at various ranges that fall within the range of about 2800 to 3300 K, but it does not contemplate that light outside the range of about 2800 to 3300 K would be regarded as tungsten light.¹⁵

Nevertheless, Colt argues that the appropriate range for tungsten light is 1000 to 4200 K. As the source for that range, Colt cites a 2003 U.S. Patent Application Publication, No.

¹⁵ The specification discloses that “lower color temperatures of 2,700 to 3,300 are considered ‘warm’ colors.” *Id.* at col. 1, ll. 42–44. However, that disclosure regarding “warm” colors does not refer to “warm white light” or tungsten light. Accordingly, the specification indicates that tungsten light refers to light between about 2800 K and 3300 K, rather than between 2700 K and 3300 K, a range that the specification identifies as referring to “warm” light of an unspecified color.

US2003/0072156, by Pohlert, which was cited by the examiner during prosecution. Dkt. No. 223 at 36. But the examiner's reference to prior art that was not relied upon by the inventor at the time is of little relevance in establishing what the inventor regarded as the proper temperature range for tungsten light. Colt identifies nothing in the prosecution history to suggest that the inventor understood the term "tungsten" to refer to a temperature range of 1000 to 4200 K. Colt relies on one statement from the examiner rejecting a claim as obvious over the Pohlert reference because the claimed range fell within the range disclosed in Pohlert. *See* Dkt. No. 223, Plaintiff's Exh. 3, at 5–6 (¶ 9). However, without any statements from the inventor suggesting that the inventor understood the range disclosed in Pohlert to be coextensive with the range contemplated by the claim language, that one statement by the examiner is insufficient to expand the claim scope from the range of about 2800 to 3300 K, as indicated in the specification, to a range of 1000 to 4200 K. *See 3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1332 (Fed. Cir. 2013) ("While the examiner's statements could make this a close question, we are guided by legal principles dictating that we rest on the statements made by the patentee over conflicting statements of an examiner because it is the patentee's words that define the claim.").

Colt also argues that the doctrine of claim differentiation supports its proposed construction. Colt asserts that claim 8 of the '924 patent uses the word "tungsten," whereas claim 10, which depends from claim 8, uses a numerical range. Dkt. No. 223 at 37. "Under the doctrine of claim differentiation, two claims of a patent are presumptively of different scope." *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1366 (Fed. Cir. 2000). But "claim differentiation only creates a presumption that each claim in a patent has a different scope; it is not a hard and fast rule of construction." *Id.* (citation and quotation marks omitted).

Colt is correct that claim 8 of the '642 patent includes the limitation “a plurality of second LEDs mounted on the top side of the support structure and configured to emit broad-spectrum white light in a second predetermined Kelvin temperature range of tungsten” and that claim 10 adds the limitation “the second LEDs each being configured to emit light between 2800 K and 3300 K.” But there is a difference in claim scope between claims 8 and 10 if tungsten light is construed to be light at a temperature of about 2800 to 3300 K. As explained above, the specification identifies “about” to mean within 3% of the designated temperature. Therefore, claim 8 permits the light to be outside the range of 2800 to 3300 K so long as it is still within 3% of the top and bottom of that range. In contrast, claim 10 requires the light to be strictly within the range of 2800 to 3300 K. Although that difference in the scope of the two claims is small, it is sufficient to distinguish the claims for purposes of the doctrine of claim differentiation.

In any event, “claims that are written in different words may ultimately cover substantially the same subject matter.” *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480 (Fed. Cir. 1998). Here, the specification makes clear that the temperature range for tungsten light is about 2800 to 3300 K; the fact that claim 10 is close in scope to claim 8 does not justify invoking the doctrine of claim differentiation to expand the scope of either claim beyond what is appropriate in view of the specification.

The next dispute between the parties is whether to construe the term “tungsten light” to be equivalent to the term “warm white light.” Colt argues that tungsten light is a type of warm white light but is not coextensive with warm white light; instead, according to Colt, warm white light is light at any temperature below 4200 K. Dkt. No. 223 at 38. The defendants argue that tungsten light and warm white light should be construed to have the same meaning. *Id.* at 44.

As the defendants note, the specification repeatedly uses the terms tungsten light and warm white light as equivalents. '924 patent, col. 1, line 66 (“tungsten (warm white)” light); *see also id.* at col. 2, line 19; col. 4, line 17; col. 5, ll. 11–12; col. 9, line 34; col. 10, line 7; col. 10, line 46; col. 10, line 56; col. 11, line 17; and col. 11, line 29. Because the specification’s use of those terms supports adopting the same construction for both terms, I will do so. The parties generally agree that the terms “predetermined Kelvin temperature range of warm white light” and “predetermined Kelvin temperature range of tungsten” should be construed consistently with the other terms referring to tungsten and warm white light, so those terms will be construed consistently with the terms “tungsten light” and “warm white light.” *See* Dkt. No. 223 at 56.

E. “daylight white LEDs”; “cool white LEDs”; “second temperature range is daylight white light”; “predetermined Kelvin temperature range of daylight”; “predetermined Kelvin temperature range of cool white light” (issues 10 and 12)

As with the term “warm white LEDs,” Colt requests judicial correction of the term “cool white LEDs” in claim 26 of the '924 patent. Again, Colt explains that claim 1 of that patent does not use the phrase “cool white LEDs” but instead uses the phrase “a plurality of first LEDs mounted on the top side of the support structure and configured to emit broad-spectrum white light in a second predetermined Kelvin temperature range of cool white light.” Dkt. No. 223 at 62. Therefore, Colt asks that “cool white LEDs” as used in claim 26 be construed to mean a “plurality of first LEDs.” *Id.* As with the other correction, Colt argues that the error is evident on the face of the patent, the correction does not conflict with the specification, and the correction is not in dispute. *Id.* at 40. The defendants again do not contest Colt’s proposed correction. *See id.* at 63–67. Accordingly, it will be adopted.

As in the case of the terms “tungsten light” and “warm white light,” the primary dispute between the parties with respect to the meanings of “daylight white” and “cool white light” is over the appropriate range of temperatures for each of those terms. Colt proposes that the range for

“daylight white light” should be from 5000 to 9500 K. Dkt. No. 223 at 59. The defendants propose restricting the range for daylight white light to between 5000 and 5800 K. *Id.* at 65.

The specification states that one of the “most frequently used and desired color temperature ranges [is] . . . 5400 to 5600 K for daylight white.” ’924 patent, col. 1, ll. 63–67; *see also, e.g., id.* at col. 3, ll. 48–51; col. 5, ll. 33–36. The specification discloses a broader range only once, when it states: “the LEDs for . . . the D (daylight white light) type are selected to be 5000 to 5800 K or about 5000 to 5800 K, and more preferably 5000 to 5500 K or about 5000 to 5500 K and most preferably 5200 to 5400 K or about 5200 to 5400 K.” *Id.* at col. 11, ll. 45–53. Therefore, the broadest range of temperatures contemplated by the specification is “about 5000 to 5800 K,” which supports the defendants’ position that the range should be capped at 5800 K. For the same reasons set forth above for the tungsten/warm white light terms, Colt’s present reliance on Pohlert, a prior art reference that was included in the patent’s list of references, but was first mentioned by the examiner in an office action, is not a persuasive ground for construing the terms in light of that reference. There is nothing in the prosecution history to suggest the patentee agreed with the temperature range set forth in Pohlert, and the range disclosed in the Pohlert reference is not consistent with the range disclosed in the specification.

Colt also makes a claim differentiation argument that is similar to the one it makes with regard to the tungsten/warm white light terms—that claim 10 of the ’642 patent recites a temperature range of 5000 to 5800 K, so claim 8, from which claim 10 depends, must encompass a broader range. As with the previous terms, however, a construction of daylight white as “about 5000 to 5800 K” is broader than the “5000 to 5800 K” range set forth in claim 10. Principles of claim differentiation therefore do not support Colt’s proposed construction of “daylight white.”

The defendants argue that the term “cool white” should be given the same construction as “daylight white”—i.e., from 5000 to 5800 K. Dkt. No. 223 at 66. Colt offers a number of different proposals for the construction of the term “cool white,” but it seems to settle on a construction that “cool white” is any temperature above 5000 K. *Id.* at 61.

The specification refers to “cool” light only once. It states, “[c]olor temperatures over 5,000K are considered ‘cool’ colors (blue-ish white).” ’924 patent, col. 1, ll. 41–42. That statement, however, does not address “cool white” light; instead, it addresses “cool” colored light, which is described as “blue-ish white” light. Nevertheless, Colt asserts, without support, that “cool white” means “blue-ish white.” Dkt. No. 223 at 61.

Unlike the specification, the claims use the term “cool white light.” Here, the doctrine of claim differentiation is useful. Using the ’924 patent as an example, claim 1 uses the term “cool white light” to describe the light emitted by “a plurality of first LEDs,” and claim 2 further limits claim 1 by restricting that light to the range of 5000 to 5800 K. Therefore, based on claim differentiation, “cool white light” presumptively has a range broader than 5000 to 5800 K. *See also* ’924 patent at claims 8 & 9.

Claim differentiation also supports the conclusion that the term “cool white light” has a broader scope than the term “daylight white light,” because dependent claim 22 in the ’924 patent adds the limitation that the “cool white light is daylight white.” Based on that limitation from claim 22, I conclude that “daylight white light” is a type of cool white light, but that the term “daylight white light” is not equivalent to the term “cool white light.”

That conclusion is further supported by the prosecution history, in which the applicant used the term “cool white.” Specifically, in a response to an Office Action dated February 11, 2016, the applicant explained that one of the “most frequently used color temperature ranges of light [is]

cool white (daylight), preferably about 5000 K to 5800 K (and up).” Nov. 3, 2016, Response to Office Action at 14. Given that statement and the specification’s disclosure that colors over 5000 K are considered “cool,” I agree with the parties that about 5000 K is the correct lower boundary for the temperature range for “cool white” light. In view of my conclusion that 5000 K is also the appropriate lower boundary for daylight white light but that cool white light has a broader scope than daylight white light, I also conclude that to the extent cool white light has an upper boundary, that boundary must be above 5800 K.

However, I agree with Colt that the specification does not set a specific upper boundary for that temperature range. Neither party has offered any evidence that “cool white” is a term of art, which an artisan of ordinary skill would understand to have a known upper boundary, nor has either party identified any other extrinsic evidence suggesting such a conclusion. Accordingly, I decline to place an upper boundary on the term “cool white” at this time, as that would improperly import a limitation into the claim term. *See Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009). To the extent there arises a material disagreement over whether there should be an upper boundary for the range (and if so, what the appropriate boundary would be), I will consider revising the construction of that term and will have the parties submit extrinsic evidence for me to consider. Accordingly, for now, “cool white” will be construed simply to mean light at a temperature above 5000 K.

F. “providing light within the first temperature range that provides a first preferred skin appearance in the commercial image recording of a first scene having a first brightness corresponding to warm white light”; “providing light within the second temperature range that provides a second preferred skin appearance in the commercial image recording of a second scene having a second brightness corresponding to cool white light” (issue 13)

The defendants argue that these terms render the ’600 patent claims invalid for indefiniteness because the specification does not provide any guidance as to what “preferred skin

appearance” means. Dkt. No. 223 at 78. The question whether particular skin appearance is “preferred,” the defendants argue, depends on the viewer’s subjective aesthetic tastes and therefore does not provide an objective standard for determining the scope of the claims. *Id.* at 79. Colt responds that the claims identify the color temperature, so the claims provide guidance as to the meaning of that term. *Id.*

The Supreme Court has explained that a patent claim is indefinite if, in view of the patent specification and prosecution history, the claim “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). While the Court stated that “a patent must be precise enough to afford clear notice of what is claimed,” the Court recognized that “absolute precision is unattainable.” *Id.* at 909–10.

In applying the indefiniteness standard set forth in *Nautilus*, the Federal Circuit has held that where a claim uses descriptive terms or terms of degree, those terms are not indefinite if the claims, written description, and prosecution history provide “objective boundaries” for the scope of the claims. *Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1349 (Fed. Cir. 2022). But the Federal Circuit has explained that “while a claim employing a term of degree may be definite where it provides enough certainty to one of skill in the art when read in the context of the invention, a term of degree that is purely subjective and depends on the unpredictable vagaries of any one person’s opinion is indefinite.” *Intell. Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018) (citation and alterations omitted).

Indefiniteness is a question of law that is decided by the court, frequently at the claim construction stage of a case. *See Eli Lilly & Co. v. Teva Parenteral Medicines, Inc.*, 845 F.3d 1357, 1370 (Fed. Cir. 2017); *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014); *Cordis Corp.*

v. Boston Sci. Corp., 561 F.3d 1319, 1331 (Fed. Cir. 2009). The indefiniteness arguments raised by the defendants can be resolved on the present record, so I will decide the issue now.

The claim at issue in this case—claim 1 of the '600 patent—recites a method. The first relevant step in that method is “using the plurality of first LEDs mounted on the support structure of the plurality of lighting tubes, providing light within the first temperature range that provides a first preferred skin appearance in the commercial image recording of a first scene having a first brightness corresponding to warm white light.” '600 patent, col. 12, ll. 54–59. The second relevant step is substantially similar: “using the plurality of second LEDs mounted on the support structure, providing light within the second temperature range that provides a second preferred skin appearance in the commercial image recording of a second scene having a second brightness corresponding to cool white light.” *Id.* at col. 12, ll. 60–65. Put more simply, the relevant limitations require using light within a certain temperature range (either warm white or cool white) to provide a preferred skin appearance.

The defendants argue that the claim should be read as “providing light to create subjective, user-dependent (viewer) and skin-tone-dependent (subject to be lighted) aesthetic.” Dkt. No. 223 at 79. I disagree with that interpretation of the claim. Instead, I interpret the claim to require the production of light at a temperature selected from within the relevant temperature range so that the user can select any temperature within that range that provides the skin appearance the user prefers. Under that reading, the claim’s reference to “preferred skin appearance” is equivalent to reciting a method that provides the user with two options and then executes whichever option the user selects. That example claim is not indefinite, and neither are the claims at issue here.

The Federal Circuit’s decision in *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342 (Fed. Cir. 2005), does not change the outcome. The patent claim at issue in the *Datamize* case was

directed to electronic kiosk screen elements having an “aesthetically pleasing look and feel.” *Id.* at 1345. The court found that term indefinite because it was “completely dependent on a person’s subjective opinion.” *Id.* at 1350. The court explained that the claim “fails to provide any direction regarding the relevant question of how to determine whether [the user] succeeded in creating an ‘aesthetically pleasing’ look and feel for interface screens.” *Id.* In this case, by contrast, the claim in dispute is not directed to providing a skin appearance that would be aesthetically pleasing to a viewer, which would be a subjective determination. Instead, the claim allows the user to decide which skin appearance he or she seeks, and then enables the user to select a temperature of light from within a set range that produces the desired skin appearance.

That conclusion is supported by the specification, which discloses that “some people find the color rendition produced by some fluorescent lamps to be hard and displeasing, sometimes giving a greenish hue to skin tones giving people a sickly or unhealthy appearance.” ’600 patent, col. 1, ll. 61–65; *see also id.* at col. 3, ll. 62–65 (“The color ranges may be predetermined based on the desirable appearance of a person’s skin during commercial video or image recording.”). To the extent the user is striving to achieve a sickly appearance (for example, if the user is filming a horror movie), the user could select the temperature of light that provides a greenish hue. If the user wishes to avoid a sickly look, the user could select a different temperature of light as long as that temperature fell within the set range. As such, the claims of the ’600 patent are quite different from the claim term “aesthetically pleasing,” which the court in *Datamize* found to be indefinite because infringement would depend on the entirely subjective taste of the viewer.¹⁶

¹⁶ The defendants cite *Vaxcel International Co. v. HeathCo LLC*, No. 20-224, 2021 WL 7209508 (D. Del. Nov. 22, 2021), in support of their indefiniteness argument. But that case, which involved a claim limitation requiring lighting creating “an aesthetic night view” is very similar to the *Datamize* case and quite different from this one. Although the plaintiff in *Vaxcel* argued that

G. “toggle switch” (issue 14)

The issue with respect to this term is whether the claimed toggle switch can include a “potentiometer,” which Colt explains is a device that allows for “adjustability along a continuous spectrum from darkness to brightness.” Dkt. No. 223 at 82. Colt argues that the term should be construed as “a switch that causes circuitry to switch between driving either the first LEDs or the second LEDs,” and does not include a “dimming” function for either set of LEDs, i.e., a potentiometer. *Id.* at 80. The defendants argue that Colt disclaimed the functionality of a potentiometer during prosecution, but that Colt’s proposed construction would cover a toggle switch that functions as a potentiometer. *Id.* at 82. Colt replies that its “proposal does not implicate the function of a potentiometer.” *Id.* Other than again asserting that Colt has disclaimed such functionality, the defendants offer no reason that Colt’s representation does not adequately respond to the defendants’ concern that Colt is seeking to recapture claim language that it disavowed during prosecution. Accordingly, I will adopt Colt’s construction of the “toggle switch” limitation, with the added caveat that the functionality of the toggle switch does not include the functionality of a potentiometer.

H. “means for selectively electronically switching between driving either (i) the first LEDs to provide light within the first predetermined temperature range while the second LEDs are off and (ii) the second LEDs to provide light within the second predetermined temperature range while the first LEDs are off” (issue 17)


As with the term “toggle switch,” the defendants argue that Colt disclaimed switches that “function by a ‘progression through multiple intermediate states’”—i.e., that Colt disclaimed the

the term “aesthetic” is not subjective “because it relates to the ‘philosophy’ or ‘science’ of ‘beauty and ugliness,’” the court rejected that argument as well as the plaintiff’s argument that the term “aesthetic” was meant to distinguish “the artful aspect of the light versus the functional navigation”; the court found nothing in the patents that would provide a person of ordinary skill in the art “with reasonable certainty as to how to differentiate between artful and functional aspects of light.” *Id.* at *4.

functionality of a potentiometer. Dkt. No. 223 at 84. Colt does not dispute that it has disclaimed the functionality of a potentiometer; to the contrary, Colt argues that it is not attempting to recapture that claim scope. The defendants do not suggest why that representation is insufficient, nor do they otherwise respond to that representation. *Id.* at 85. Accordingly, as in the case of the “toggle switch” limitation, I will adopt Colt’s construction of the “means for selectively electronically switching” limitation, with the added caveat that the functionality does not include the functionality of a potentiometer.

IT IS SO ORDERED.

SIGNED this 19th day of August, 2025.

A handwritten signature in black ink, reading "William C. Bryson". The signature is fluid and cursive, with the first name "William" and last name "Bryson" clearly legible.

WILLIAM C. BRYSON
UNITED STATES CIRCUIT JUDGE